AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A multiple beam generator for use in a scanning system, said generator comprising:

an acousto-optic deflector (AOD) which during use receives a laser beam and generates a deflected beam, the deflection of which is determined by an AOD control signal;

a diffractive element which generates an array of input beams from the deflected beam;

an acousto-optic modulator (AOM) which during use receives the array of input beams and separately modulates each of the received beams in accordance with an AOM control signal to produce an output beam array that is scanned over a scan region by the scanning system; and

a control circuit which during operation generates the AOD control signal and varies a characteristic of the AOD control signal to account for errors in the scanning system, said errors attributable to at least one of (1) variations in beam velocity over a scan line within the scanning system, (2) intensity errors associated with the scanning system, and (3) intensity variations from stripe deflection across a sound field within the AOM.

2. (Currently Amended) The generator of claim 1 wherein the control circuit receives a feedback signal that is a measure of a deflection error of ~~an~~ the output beam array from a desired position, ~~said output beam array derived from said input beam array and~~ wherein the control circuit generates the AOD control signal to reduce the deflection error.

3. (Cancelled)

4. (Previously Presented) The generator of claim 1 wherein the control circuit includes a table of corrections which the control circuit uses to generate the AOD control signal.

5. (Original) The generator of claim 4 wherein said table stores corrections for stripe position errors associated with the scanning system.

6. (Currently Amended) The generator of claim [[5]] 4 wherein said table stores corrections for variation in beam velocity over a scan line within the scanning system.

7. (Currently Amended) The generator of claim [[5]] 4 wherein said table stores corrections for facet-by-facet position error attributable to a polygon mirror in the scanning system.

8. (Original) The generator of claim 4 wherein said table stores corrections for intensity errors associated with the scanning system.

9. (Original) The generator of claim 8 wherein said table stores corrections for scan-line intensity variations within the scanning system.

10. (Original) The generator of claim 8 wherein said table stores corrections for intensity variation from stripe deflection across a sound field within the AOM.

11. (Original) The generator of claim 8 wherein said table stores corrections for intensity variation due to reflectivity variations within a polygonal scanning element that is part of the scanning system.

12. (Original) A beam deflection control system comprising:

a generator that during operation generates a first array of beams;

a scanning element that during operation receives a second array of beams derived from the first array of beams and scans the second array of beams over a scan region;

a deflection measurement circuit including a chevron pattern detector across which one of the beams of the scanned array of beams scans during operation, said chevron pattern detector generating a signal that is a measure of the location of the scanned array of beams in a direction transverse to the scan direction, said chevron pattern detector including an angled slit across which said one of the beams passes; and

a control circuit which during operation receives a feedback signal from the deflection measurement circuit that is a measure of a deflection error between the output beam array and a desired position, wherein the control circuit generates the first control signal to reduce the deflection error.

13. (Original) The system of claim 12 wherein said generator comprises:

an acousto-optic deflector which during use receives a laser beam and generates a deflected beam, the deflection of which is determined by a first control signal; and

a diffractive element which generates the first array of beams from the deflected beam.

14. (Original) The system of claim 12 wherein the chevron pattern detector also includes a vertical slit across which the said one of the beams passes.

15. (Original) The system of claim 12 wherein the chevron pattern detector also includes a vertical slit and a plurality of angled slits across which the said one of the beams passes, said first-mentioned angled slit being one of said plurality of angled slits.

16. (Original) The system of claim 12 wherein the chevron pattern detector also includes a vertical slit, a first plurality of angled slits and a second plurality of angled slits symmetrically oriented with respect to the first plurality of slits, wherein the said one of the beams passes over the vertical slit and the first and second plurality of slits and wherein said first-mentioned angled slit is one of said first plurality of angled slits.

17. (Original) The system of claim 12 wherein the chevron pattern detector is characterized by a path along which the said one of the beams passes during operation and wherein the chevron pattern detector further includes a detector region along said path for determining whether the beam is properly aligned over said path.

Claims 18-23. (Cancelled).

24. (New) The generator of claim 1 further comprising a deflection measurement circuit including a detector across which one of the beams of the scanned array of beams scans during

operation, said detector generating a feedback signal that is a measure of the location of the scanned array of beams in a direction transverse to the scan direction, said detector including an angled slit across which said one of the beams passes, wherein the control circuit is adapted to receive the feedback signal generate the AOD control signal to reduce the deflection error.

25. (New) The generator of claim 24 wherein the detector also includes a vertical slit across which the said one of the beams passes.

26. (New) The generator of claim 24 wherein the detector also includes a vertical slit and a plurality of angled slits across which the said one of the beams passes, said first-mentioned angled slit being one of said plurality of angled slits.

27. (New) The generator of claim 24 wherein the detector also includes a vertical slit, a first plurality of angled slits and a second plurality of angled slits symmetrically oriented with respect to the first plurality of slits, wherein the said one of the beams passes over the vertical slit and the first and second plurality of slits and wherein said first-mentioned angled slit is one of said first plurality of angled slits.

28. (New) The generator of claim 24 wherein the detector is characterized by a path along which the said one of the beams passes during operation and wherein the chevron pattern detector further includes a detector region along said path for determining whether the beam is properly aligned over said path.